POLICY RESEARCH WORKING PAPER 3114

The Dynamics of Foreign Bank Ownership

Evidence from Hungary

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August 2003

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Abstract

The early start of the process of bank restructuring and privatization in Hungary provides a longer and richer amount of evidence than that available for any other transition economy. Majnoni, Shankar, and Várhegyi analyze the dynamics of bank restructuring in Hungary with a focus on the role played by foreign ownership. They explore the performance over time of foreign-owned Hungarian banks and study the extent to which efficiency gains are affected by the chosen acquisition strategy—strategic acquisition in contrast with investment in a newly established bank (greenfield investment)—or by the management style adopted after the acquisition. The authors supplement previous results on the effects of foreign bank ownership in three ways. First, they explicitly consider the time span required for the change of ownership to affect bank performance. Second, the authors explore how important the chosen acquisition strategy is for the success of an acquisition. And third, they study how relevant the adopted management style is to this end, as proxied by the degree of reliance on foreign management.

This paper—a product of the Financial Sector Network—is part of a larger effort to study the effects of financial liberalization. Copies of the paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Helena Issa, room I5-112, telephone 202-473-0154, fax 202-522-2106, email address hissa@worldbank.org. Policy Research Working Papers are also posted on the Web at http://econ.worldbank.org. The authors may be contacted at gmajnoni@worldbank.org, rashmi@brandeis.edu, or h7239var@helka.iif.hu. August 2003. (30 pages)

The Dynamics of Foreign Bank Ownership:

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JEL classification numbers: F23, G21,G34

Keywords: banks, foreign ownership, financial liberalization

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1. Introduction.

A growing body of empirical evidence has shown the positive impact that foreign ownership has on banks' performance in developing and in transition economies. Seldom, though has the analysis focused on the dynamics of bank performance following the change in ownership. How long does it take for the new management to be able to affect the different parameters of bank performance? and which parameters are foreign owners most likely to affect? And finally are these effects dependent from the mode of entry? These are questions that need to be answered in order to better understand the chain of events through which foreign ownership eventually affects bank efficiency of the host country. Although a relatively large amount of empirical evidence has been analyzed for mature economies much less is known about foreign ownership in emerging countries[1].

There are several reasons for which there is scant empirical evidence on the channels through which foreign ownership affects banks performance. Uneven data quality, or lack of comparable data over sufficiently long sample periods have been an obstacle to detailed empirical tests based on large cross countries datasets. On the other hand, analyses focused on individual country experiences cannot easily disentangle the effects of foreign ownership on bank efficiency from those of other concurrent financial reforms. This paper intends to contribute to a better understanding of the effects of foreign ownership on individual banks' performance by looking closely at the experience of one country – Hungary – that presents particularly desirable features from the perspective of a case study. Hungary had, in fact, an early start in the transition process toward a market economy and was one among the first countries to allow foreign ownership of its banks. As a result, Hungary appears to be the only transition economy for which an econometric analysis could be based on a sufficiently long string of good quality data while at the same time keeping to a minimum the disturbance effects of simultaneous major banking reforms.

The first part of this paper (sections 2 to 4) provides an overview of the main features of the changes in bank corporate governance in Hungary over the 1990s. It sets out the main descriptive evidence and provides the motivation and a guide to the testing strategy to be followed in the second part of the paper.

More specifically, we shall discuss the environment in which bank reforms took place and their timing (section 2), the process of foreign banks entry in Hungary (section 3) and the performance records of different groups of foreign owned banks (section 4). In particular, we shall explore the effects associated with different forms of foreign presence (diffuse or strategic, related to a "green-field" investment or to the acquisition of a preexisting concern) and with different productive choices (concentrated on niche markets or on wider business segments).

The second part (Sections 5 and 6) verifies whether the descriptive evidence and the conjectures discussed in the previous sections possess indeed a statistical significance and can withstand econometric tests. Over the sample of 26 commercial banks active in the period 1994-2000 we test *whether* foreign ownership has significantly affected cost efficiency (as measured by operating costs and by number of employees over assets), profit efficiency (as measure by pretax profits over assets and by lending spreads) or bank development (as measured by loan growth) and over *what* time intervals. In addition, we tests *how* efficiency gains have been affected by the chosen acquisition strategy – strategic acquisition versus green-field investment – or by the adopted management style – majority of foreigners in the board of directors or appointment of a foreign CEO. After controlling for macroeconomic developments and for bank specific features we find that all these aspects have played a statistically significant role in affecting the success or failure of different acquisition strategies in the Hungarian market. While our results are specific to the Hungarian case, the detailed characterization of the efficiency gains associated with the presence of foreign ownership may not be unique to the Hungarian experience and may be of more general interest.

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[1] See for a comprehensive survey of recent literature on foreign bank ownership in emerging economies Clarke et al. (2003).

Overall, this paper supplements previous results on the effects of foreign bank ownership in three ways. First, it explicitly considers the time span required for changes of ownership to affect the acquired banks' performance. Second it examines the impact of the chosen acquisition strategy on different measures of bank efficiency, and, third, it seeks to answer to the question of whether the reliance on foreign or domestic management has differential impact on bank efficiency.

2. Development and Reform of the Hungarian Banking Sector.

The reforms launched in the 1960s and 1980s and the resulting move towards a more open economy, shaped the development and the ownership structure of the Hungarian banking system. Trade, largely fostered through close economic ties with Western Europe, led to higher foreign direct investment in the 1970s, and to the setting up by foreign companies (e.g. General Electric, Siemens, Shell) of numerous joint ventures. This brought into focus the need for effective provision of financial services. In 1979 National Bank of Hungary (NBH), the Hungarian central bank founded CIB with the participation of five international commercial banks. This was followed by Citibank Budapest, with Citibank Overseas holding 80 per cent, and Unicbank, in which IFC, DG Bank and Raiffeisen had a 15 percent stake each.

The other main trend in the modernization of Hungarian banking was the emergence of the two-tier system, which went together with the birth of new institutions. Hungary was the first CEE country that modernized its financial sector by creating a two-tier banking system, more adapted to the market environment[2]. Parallel with this process small specialized financial institutions were developed from funds that had been pooled from different corporate or fiscal moneys in the early 1980s and operated as quasi banks. These specialized banks became the seeds of some of the future small and medium size

[2] The new system, set up on January 1 1987, led to the spin-off of the Hungarian Credit Bank (MHB), the Commercial and Credit Bank (K&H), and the Budapest Bank (BB) from the NBH, removing from the latter all commercial bank functions and leaving to the NBH only central bank functions. The three spin-offs became the main actors in the new system together with the historical National Savings Bank (OTP), the Hungarian Foreign Trade Bank (MKB) and the General Banking & Trust (ÁÉB). Postabank was established by government initiative in 1988.

banks, like Inter-Európa Bank (latter bought by San Paolo di Torino), General Bank for Venture Financing (latter bought by WestLB), Agrobank and Mezőbank (latter bought by Erste).

At the turn of the 1990s the partial privatization of some banks brought additional foreign capital into the banking sector: the state sold 20 per cent of the Inter-Európa Bank to San Paolo di Torino, 50 per cent of ÁÉB to U.S. financial investors, and 20 per cent of the Postabank to three Austrian financial institutions. All three transactions involved capital increases in the banks.

The joint banks established prior to 1990 and the partially privatized institutions posed an ever larger challenge to the Hungarian banks, thereby contributing to an increase in the general standards of banking services. The competition became particularly fierce upon the liberalization of banking activities. The liberalization of retail operations took place in 1989 together with a gradual liberalization of trade-related foreign operations. Banks, which had served only corporate clients, were allowed to perform retail operations, whereas retail banks began to offer the full range of commercial banking services.

The Act on Credit Institutions allowed banks to conduct investment banking activities – that the 1990 Act on Securities restricted to authorized security dealers only – through wholly-owned subsidiaries. So notwithstanding an organizational separation, commercial banks could engage in investment banking. This institutional segregation was gradually abolished after 1997: commercial banks were first licensed for government securities transactions, and then for the full range of investment banking in 1999.

The increase in the number of market players, the appearance of foreign owners and the liberalization of banking enhanced competition, but problem loans inherited from the past increased dramatically due to the financial problems faced by enterprises during the accelerated reforms process started in the early 1990s. The Bankruptcy Act introduced in 1992 worsened the situation. By 1992, the fast growth of bad loans became one of the most critical obstacles to the operation of the Hungarian banking system. The fire fighting "loan consolidation program" did not bring about the desired long term

improvement in the positions of either the banks or their debtors. Therefore, further "bank and the debtor consolidation programs" were implemented in 1993 and 1994[3].

The "loan consolidation program" (which included the acquisition by the government of bad debts of banks) led to considerable short term improvement in the position of the banking system (Balassa, 1996). Capital adequacy ratios were increased. However, the benefits of loan consolidation did not last long. The portfolios retained by the banks continued to deteriorate because of more rigorous criteria of classification and poor debtor positions. Without addressing ownership and management problems the key issues of banks' under-capitalization could not be solved.

In spite of portfolio cleaning, the total problem loan portfolio in the banking system kept increasing and by the end of 1993 it reached 29 per cent of the outstanding loans of banks, 16 per cent of total banking assets and 12 per cent of GDP. Due to the related provisioning requirements, many state owned banks became technically insolvent. The government led re-capitalization effort brought government share of bank equity over 75% in 7 of the 8 concerned banks.

The new bank consolidation agreements defined at the end of 1993 imposed more stringent performance requirements on bank managers. Each bank had to develop a strategy to improve operating costs, rationalize organization and loan classification procedures, and credit rating systems. Subject to the achievement of these objectives, a new re-capitalization was completed by the end of 1994. The program had mixed success. Problem loans (substandard, doubtful or bad loans) gradually were reduced both in absolute terms and as a share of total assets (Table 1), although, total loans of these banks decreased at an even higher rate due to more rigorous lending criteria. Consequently the level of commercial and industrial loans of banks involved in consolidation programs decreased in 1995, notwithstanding an inflation rate close to

[3] See Ábel and Bonin, 1994, Várhegyi, 2001.

20%. The share of commercial and industrial loans over total bank assets decreased from 22% to 19% during the consolidation period.

The debate on the reform of public property did not touch the banking sector until 1989, when the issue of bank privatization was raised by the interest shown by some West European banks to acquire participations in the two largest commercial banks, Hungarian Credit Bank (MHB) and Commercial and Credit Bank (K&H). The "modernization" of the banking sector was still perceived by the government as a responsibility of public policy.

Privatization was initially launched through capital increases. By the end of year 1990, the state's direct stake in the banking sector had fallen to 39 percent also as a consequence of the high proportion of new banks founded privately. The partial privatization of banks of lower importance and the increase of the minority foreign shares continued in the nineties. The privatization process, though, suffered a setback as a result of heavy state interventions that brought back government's direct presence in the banking system above sixty percent, when measured as a proportion of total assets and up to 86 per cent as a proportion of equity capital (Table 2).

The first significant bank privatization took place with the partial sale of Hungarian Foreign Trade Bank (HFTB)in the summer of 1994. Joint private and public ownership was thought to be sufficient to ensure bank's profit oriented policies, balanced proprietary structure and the amount of capital resources necessary for growth. The winning bid was made by the pair EBRD (financial investor with a share of 16,68%) and Bayerische Landesbank (strategic investor with a 25,01% share), whose stake increased two years later when the state sold its 25 percent share. The same scheme characterized the sale of Budapest Bank in 1995 to GE Capital and the EBRD. During 1996-97 MHB, K&H and other commercial banks were sold to strategic foreign investors, according to the basic scheme of the Hungarian bank privatization that privileged the pursue of a strategic foreign presence (Várhegyi,.2001).

A second scheme has been followed by the Hungarian authorities with the partial sale in the summer of 1995 of the largest retail bank, National Savings and Commercial

Bank (OTP). By forbidding the presence of strategic investors, by preserving a 25 percent stake in public hands and by promoting a prevalent domestic ownership, the Government wished to create a diversified proprietary structure, dominated by institutional investors.

Overall, the privatization of the Hungarian banking system was *practically completed* by the end of 1997. By that time state ownership had dropped to 21 per cent of bank capital while the foreign stake had increased to over 60%. At the end of 2000 state ownership had dropped to 19% while the foreign stake had increased to over 66% (Table 2). If we exclude Postabank that went through a severe crisis and required new public funds in 1998 and two small banks whose privatization failed, only banks with specific public functions have remained in public hands (Eximbank, Hungarian Development Bank, Land Credit and Mortgage Bank).

3. Foreign banks ownership in Hungary

The whole process of bank restructuring and reforms relied on and, to a large extent, has been characterized by the important role that the Hungarian authorities invited foreign banks to play and that was actively pursued though a liberal entry policy and a deliberate emphasis on the presence of strategic investors in bank privatizations. The Act on Financial Institutions, enacted at the end of 1991, to a large extent was in conformity with European standards (Várhegyi, 1996b). The legislation concerning *bank establishment* had always been very liberal and the low threshold of market entry favored the operation of several newly founded foreign banks in Hungary. Licenses were granted automatically provided that applicant met the requirements of prudence; government approval was required only for acquisitions in excess of 10 percent of the controls firms. Thanks to the liberal licensing policy, the number of banks doubled in 1987-1995 and the overwhelming majority of the new banks were at least partly owned by foreigners. No barriers were raised to foreign strategic investors in the privatization deals. The selection in the invitational tender bids was based on two criteria: purchase price and the promised capital increase.

The Second Banking Act Amendment in late 1997, by allowing branch establishment to foreign financial institutions, completed Hungary's compliance with the

obligations of OECD membership, and accelerated accession to the European Union. The legislators, however, made provisional regulations intended to strengthen the capital base of bank operating in the country, by requesting foreign bank branches to comply with capital requirements similar to those of bank subsidiaries.

As a result of a liberal entry policy the establishment of foreign and joint banks began to escalate after 1990. Up to the launch of the Government's privatization program in 1994, foreign and joint banks had been growing mainly through green-field investment and new market entries. ABN AMRO, Commerzbank, Creditanstalt, Credit Lyonnais, Hypobank, ING, Nomura, and Volksbank appeared in the early 1990s. At the end of 1994 these eight wholly foreign banks accounted for 10 per cent of the capital in the Hungarian banking sector, and foreigners had another 6 per cent share in the joint banks with a foreign majority. Between 1987 and 1994 the number of banks more than doubled, passing from 21 to 44, with a majority of them owned by foreign investors. (see Table 3). By 1997 the number of banks operating with majority foreign ownership had grown to 30 with over 50 per cent of total assets. By the end of the year 2000 foreign controlled banks accounted for over two thirds of the total assets (Table 4).

3.1. Foreign Investors Entry Strategies.

The great majority of the foreign shareholders in Hungarian banking are strategic investors. In some cases, multilateral finance organizations (EBRD, IFC) temporarily held minority stakes in the privatized banks. The different motivations with which foreign banks entered the Hungarian market was reflected in diverse business strategies. A key motive was to serve internationally active corporate clients that had acquired an interest in Hungary. Owing to the early opening up of the Hungarian economy, the number of foreign and multinational firms began to soar in the late 1980s (see Farkas, 1999). Several West European banks founded subsidiaries here (and in other East European countries) so that they could provide high-quality services to these companies and their foreign employees on the spot (for instance, Germany's Commerzbank or Credit Lyonnais of France).

Another important factor of market entry was represented by the growth opportunities that Hungary as a host country, presented or appeared to present. The growth opportunities of less developed East European markets meant excellent opportunities to generate higher profits than in mature home markets. This was the strategy pursued by the Austrian banks, which in view of past historical and cultural relations, had an in depth knowledge of the Hungarian market. CA and Raiffeisen earned most of their profits in the eastern markets in the 1990s. The key element in this strategy was the acquisition of low-risk customers and large-volume transactions (multinationals, Hungarian monopolies such as the oil or the telecommunications company), which helped to push down costs (Ábel and Székely, 1994). In other cases the intention was simply to secure presence, in view of possible future expansion in Hungary or in other neighboring transition economies[4].

Foreign investors strategies were also conditioned by governments policies. Until 1994, the critical year of the Government's privatization strategy, purchase of existing banks was limited only to minority shareholders (see Inter-Európa Bank, Postabank). Banks were put on sale for strategic investors only after the portfolio cleaning that began in 1994. All foreign banks participating in the privatization sought majority (or even exclusive) stakes, reflecting their role of strategic investors. This is confirmed by the fact that the new owners effected substantial capital increases, and made large investments in information technology and network development (Várhegyi, 1999). As for the investment strategy between the 1980s and 1990s 25 foreign owners opted for a green-field investment and 11 preferred to purchase existing banks. Two-thirds of the market entries had taken place before 1995 (Table 5).

The strategy of entering the Hungarian banking market may also have been affected by the period of entry, with early entrants choosing green-field investment in light of more favorable opportunities to conquer important market shares. In addition to

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[4] This might explain the opening of representation offices, or Nomura's bank, which closed down after a few years. This "wait-and-see" approach is reflected in the operation of the Deutsche Bank, which has kept a relatively low profile so far.

the considerable success in expanding their positions on the market as a whole (Table 6), many green-field institutions turned out to be very successful in specific market segments: notably corporate and investment banking.

Market saturation, lower than expected growth, and increased competition led to a decline in the number of green-field investments after 1995. In addition, bank strategies in Hungary started reflecting the large-scale M&A activity in developed countries banking systems. Foreign banks entering the market in the second half of the 1990s sought, in the first place, to fill in market niches: as in the case of 'car banks', credit institutions specializing in consumer loans and home loans were established.

3.2 Selection of management styles.

Under Hungarian company law, the board of directors is responsible for medium-term strategy, while the supervisory board serves to control the operation on behalf of the shareholders. The management, under the leadership of the chief executive office, who also sits on the board, is responsible for the day-to-day operation (see Bonin and al., 1998). The Hungarian banking legislation stipulates that at least two of the directors shall be Hungarian citizens, and at least two shall be employed by the bank. Some of the foreign strategic investors employed Hungarian nationals as CEO or as chairman of the board, while others preferred to second experts from the parent bank to hold the top positions in the Hungarian subsidiaries.

The choice between the two strategies often did correlate with the nationality of the owners: Austrians, Germans and Italians, who are more familiar with the Hungarian situation, entrusted local managers with management more often than others (e.g. Americans or Asians). The former often relied on the stock of bankers who had gained relatively up-to-date knowledge in the international division of NBH, the Hungarian Foreign Trade Bank, or the foreign subsidiaries or representations of NBH in the 1980s (see Várhegyi, 1996a).

4. The performance of foreign banks in Hungary.

Foreign-owned banks achieved varying degrees of success in Hungary. Generally, banks established as green-field investment and controlled by strategic owners performed better than the privatized banks, including those controlled by strategic investors . This indicates that a crucial factor affecting bank performance lies in the nature of inherited problems as reflected in different entry procedures.

At the same time, not all green-field investments produced the expected results. In quite a number of cases even several years of operation did not lead to the right measure of profitability. This has been the case for banks which could not earn a sufficient market share, and did not operate as a specialized financial institution (e.g. car finance) or in a narrow market segment (consumer lending).

It is easier to understand the reasons of success and failure if banks are classified according to performance and to owner strategy. Of the 23 banks that have been under foreign control for at least five years, 10 can be classified as well-performing organizations. The majority of them were created as green-field investment. Only three banks, among those privatized through a foreign acquisition, have shown improvements in terms of market share and efficiency. W*ell-performing banks* can be split into four groups according to the owners' investment and market strategy:

- Green-field investments, successfully expanding on a wide market (CIB, Raiffeisen, BA-CA, Citibank)
- Green-field investments that have grown into successful niche banks (Porsche and Daewoo), and BNP, which operates successfully on a rather small market
- Successful banks privatized for strategic investors (HFTB, ÁÉB)
- The successful large bank OTP, held by foreign portfolio investors as minority shareholders.

Poorly performing banks can instead be split into two groups, based on their entry and governance features:

- Green-field investments that have achieved a moderate performance (ING, Commerzbank, HypoVereinsbank, Volksbank, IC)
- Banks sold to strategic investors which show a moderate or poor performance (ABN Amro, K&H, Budapest Bank, Takarékbank, Erste, Hanwha, IEB, WestLB)

Table 7 summarizes the average performance of the individual groups in 1996-2000 according to certain profitability indicators[5]. In terms of profitability and cost-effectiveness the green-field banks showed a better combined performance than privatized institutions, notwithstanding the higher interest margins earned by the latter. The main reasons for the poorer results of the privatized banks are higher operating costs, and more importantly, the higher provisioning costs. The latter explains why differences in total profitability ratios, as measured by ROA and ROE, are much larger than those associated with operating income and costs.

The parent banks of the majority of the green-field banks are capital-rich institutions with strong positions and good performance internationally (e.g. Citibank, ING, Commerzbank). A common feature of the green-field banks that have achieved an outstanding performance *and* a good market position is a long-standing presence on the Hungarian market: three out of four were active in Hungary since the 1980s, and also the fourth also has been operating for more than a decade.

Early market entry enabled these banks to build up a core clientele, particularly of large corporations, in a period when competition was much weaker (Claessens and al., 2000, Király and al., 2000). Later, in the second half of the 1990s, when expansion became impossible in the corporate market segment, banks reoriented their focus towards retail banking, though for high-income customers (e.g. private banking). Only Citibank pursued a different market/product strategy by offering "quality" retail services in Budapest since the early 1990s, relying on the growing expatriate population.

[5] Two of the five years, notably 1998 and 1999, were affected adversely by the Russian financial crisis, which hit many banks, not so much because of loans advanced to Russian banks and companies, rather because of failures among Hungarian firms that export to Russia. The banks also suffered huge losses in securities transactions.

Successful green-field banks have shared similar corporate governance features. In three of the four successful ones, foreign owners made good use of the expertise of local managers, and laid emphasis on local demands and opportunities, as opposed to a strong reliance on the parent company management and organizational patterns.

The poorer than average performers, among privatized banks, represent a rather heterogeneous group. Within this group, OTP, with a scattered ownership, has been the best performer. Only 35 to 47 per cent of OTP's shares have been held by international portfolio investors, with the remaining part in the hands of Hungarian financial investors. Essentially controlled by the management, OTP has been continuously improving since the privatization, which may be explained by the personal interest of the managers and the listing of OTP shares at the Budapest Stock Exchange. The lack of a strategic investor is partly offset by the fact that the international owners (mainly US pension funds) are represented by a trustee at the company's general meetings. At the same time, OTP's profitability largely follows from its leading position on the retail market (40 per cent of household deposits), a legacy of its former monopoly. This is reflected in a large interest margin that provides the main source of gross earnings.

Among the ten banks sold to strategic investors only two were able to achieve good results: HFTB in the hands of the Bayerische Landesbank, and ÁÉB, purchased by Russia's Gazprom. The key to HFTB's success appears to be the choice of the German owner to employ qualified Hungarian bankers to shape the bank's strategy and to manage the organization, while the bulk of ÁÉB's earnings was generated on the Russian inter-bank market.

The poor performance of the majority of privatized banks is a consequence of the bad legacy represented by high operating costs and above-average reserves, which are related to inefficient branch network, underdeveloped IT, and low-quality clientele. Several internationally reputed owners tried to replicate without success strategies already pursued in more developed countries.

Higher profitability, when achieved, has come from the joint effect of higher interest margins and lower operating costs and smaller provisioning costs. In this respect,

the Hungarian experience seems to be at odds with the general evidence that on average foreign banks are able to reduce the size of the intermediation margins. Among privatized banks only green-field ones were, in fact, able to achieve significantly lower interest margins (see Table 7).

5. The estimation procedure and the data.

Previous sections have outlined several general observable features associated with bank privatization and the entry of foreign banks in Hungary. We try now to verify econometrically whether the relationship between domestic or foreign ownership and the indicators of banks' efficiency and activity, is statistically robust and does not reflect the effect of other macro or micro level variables. We estimate the following model:

$$EAI_{it} = \alpha + \beta_1 MCV_t + \beta_2 BCV_{it} + \beta_3 DFO_{it} + \beta_4 FMS_{it} + \beta_5 FIT_i + \varepsilon_{it}$$

We use as dependent variables a set of five Efficiency and Activity Indicators (EAI) in order to catch different aspects of cost efficiency, of profit efficiency and of lending activity. The five dependent variables are given by Operating cost/Total assets, Staff/Total assets, Return on assets, Average lending spreads, and Loan growth. The set of explanatory variables, similar for all the different dependent variables, is given by a selection of Macro level Control Variables (MCV), a set of Bank level Control Variables (BCV) and by three sets of variables descriptive of different features of foreign ownership. In this latter group we have included variables related to the Duration of Foreign Ownership (DFO), of Foreign Management Style (FMS), and of Foreign initial Investment Type (FIT).

The Macro Control Variables (MCV), are represented by the logarithm of real per capita GDP and by the rate inflation, as measured by the GDP deflator. Among Bank Control Variables (BCV) we have included a size variable, given by the logarithm of total assets, the leverage ratio, given by the ratio of equity over total assets, and a profitability indicator, the net interest income ratio over total assets.

The three sets of variables describing foreign ownership specific features are composed as follows. The *first* set, intends to catch the effects of the Duration of Foreign

Ownership (DFO) and is given by four different dummies ($FORCON_n$) that take value 1 when foreign control has lasted for at least n years (with n going from 1 to 4 years) and zero elsewhere; we also considered a modulated dummy equal to the logarithm of the number of years elapsed since the beginning of foreign ownership. Foreign control is defined as an ownership share equal to or larger than 50 per cent of outstanding equity. The *second* set of variables, meant to measure the role of Foreign Management Style (FMS), refers to the presence of foreign individuals in the management and in the executive board. It includes a dummy variable (FORBOD) that takes value one when the majority of the members of the Board of directors is foreign and zero elsewhere and a second dummy variable (FORCEO) that takes value one when the CEO is foreigner. The *third* set of variables, related the Foreign Investment Type (FIT), distinguishes investments in newly established banks (greenfield investments) from purchases of control shares in existing institutions (M&A investments). Two dummy variables have been defined that take value one when the investment is a greenfield or a M&A investment and zero elsewhere.

We use both fixed effects and random effects regressions to allow for bank specific effects, according to the results of the Hausman test. The estimation results are reported in Tables 9-13. The test for the relevance of the different types of initial investment is based, instead, on a stacked OLS regression. This approach was required to avoid the problems generated by the collinearity of the FIT dummy variables with bank specific dummies. The estimation results are reported in Table 14.

The sample period starts in 1995, the year following the definition of the privatization strategy, and includes the following six years until the year 2000. It covers 26 commercial banks, for a total number of observations that, according to the different specifications, is between a minimum of 122 and a maximum of 156. We note that because of serious, and atypical restructuring problems, the observation relative to Postabank in 1998 were eliminated from our sample.

Table 8 provides some descriptive statistics about the variables in the estimation sample. Banks in our sample were on average adequately capitalized with an average leverage ratio of 12% but some of them experienced capital shortages. Net interest

income represented on average 5% of total assets, operating costs 4% and returns 1%. The average volume of intermediated funds per bank employee is equal to 100 million of Hungarian Forints and the mean value of the lending spread (average lending rate minus average deposit rate) was equal to 6 percentage points. Three fourths of the available observations in our sample were referred to foreign owned institutions.

6. The estimation results.

The set of regressions that we have just described appear to provide a qualified support to the descriptive evidence discussed in the first part of the paper. Although it is evident that our results should not be generalized to countries with different financial and regulatory structures, they detect behaviors often obscured by the higher noise that plagues data of multi-country panels.

The first two sets of regressions try to detect the effect of foreign ownership on cost efficiency. Table 9 reports the results of the effects on operating costs and Table 10 the impact on labor costs, as proxied by the number of banks' staff. Table 9 shows that, while operating costs appear to increase in the first two years following the acquisition by a foreign entity and decrease thereafter, such evidence is not statistically significant. The only significant foreign ownership variables are those, describing the foreign presence in the ruling bodies, showing that local management of foreign banks is most effective in reducing costs. These results are usefully complemented by those concerning the dynamics of labor costs presented in Table 10, that shows a very significant reduction of labor costs (proxied by the number of bank staff per value of intermediated funds) in the first three years after the acquisition of control. Interestingly the reduction of labor costs is clearly related to the presence of a foreign owner and does not appear to be affected by the management style as described by the presence of domestic national in the banks' governing bodies. In fact, negative and strongly significant effects are present both in the case where a domestic and a foreign CEO manages the foreign owned institution. The summary evidence that can be drawn from these results is that foreign ownership is characterized by an immediate rationalization of labor costs that tends to be achieved in the first three years. The reduction in the numbers of employees, though, is generally offset by either higher wages or higher expenditures in new infrastructures, reducing the

overall effects of a change of ownership – from domestic to foreign - on operating costs. In addition, the costs of new infrastructures or more qualified workforce increases together with the presence of foreign elements in the governing bodies, while it is more effectively kept under control by domestic CEOs.

Do operating costs behave differently when the acquisition has been the result of the acquisition of a previously existing institution or of a greenfield investment? The answer, largely consistent with the descriptive evidence, is that greenfield investments are clearly associated with lower operating and labor costs than M&A operations, as shown by the negative and significant coefficient of the greenfield variable both in the operating costs regression and in the bank staff regression (Table 14, columns 1 and 2).

Let us now move to the analysis of the effects of foreign ownership on profit efficiency. The expected sign of foreign ownership on profits, here proxied by the return on assets (ROA), is not obvious *a priori*. On one side a more efficient production function and a better ability to diversify risks characterizes large foreign owners leading to a possible increase of profits, on the other the greater competition provided by the foreign presence may well reduce the position rents previously enjoyed by local institutions, pushing profits down. In addition, multinational entities may largely affect the results of foreign controlled subsidiaries through a policy of transfer prices intended to improve the risk-return profile at a global level[6]. For these different reasons empirical evidence is particularly important. We analyze profitability along two dimensions, exploring the effects of foreign ownership on both total profitability and the profitability associated with the lending activity, as measured by the average level of lending spreads.

The results relative to the ROA regressions are reported in Table 11 and show that profitability unambiguously increases with a positive progression in the first four years after a foreign acquisition. It also remains consistently positive in a longer horizon, as shown by the positive coefficient of the variable "number of years of foreign control". The coefficients associated with domestic and foreign management suggest that a higher

[6] Foreign banks enjoyed tax benefits in the first half of 1990s, and later an income tax rate of 18 per cent that might have provided an incentive to transfer part of their home profit to Hungary (e.g. by providing cheap funds to their Hungarian subsidiaries).

profitability is associated with domestic management, but none of the relevant coefficients is statistically significant indicating that management styles are here less relevant than on the cost side. In other words, foreign banks appear to have a considerably higher income generating capacity than domestic banks, and this allows them to largely offset a level of operating costs whose level, if not its composition, is similar to that of local banks. The substantial irrelevance of different management styles, suggests also that the higher revenues of foreign institutions is likely to be related to a larger panoply of financial services more than to a specific placing ability of traditional products where domestic managers may have a comparative advantage. Finally, the profitability of foreign investments is unambiguously and consistently higher for green-field banks not only with respect to domestic institutions but also with respect to foreign banks acquired through M&A operations (Table 14, column 3).

The results of the regressions of the lending spread (interest income/total interest generating assets- interest expenses/total interest bearing liabilities) support our previous conjectures concerning the source of foreign banks profitability. In fact, lending spreads are clearly negatively associated with foreign banks, and increasingly so as the years from in the acquisition elapse. The first significant coefficient is that associated with a period of at least four years of foreign control. The reduction of lending spreads is consistent with the general claim that foreign banks entry is conducive to a reduction of financial rents but indicates also that the observed higher bank profitability, discussed previously, does not come from higher margins on the intermediation activity and is presumably due to a larger panoply of financial services and a better quality of loan portfolios. Even assuming an elasticity of demand for bank loans higher than one the effects of a lower mark-up pricing on net interest income, according to our evidence, should not be felt before four years from the foreign acquisition. All these consideration can be repeated with additional emphasis for green-field banks that not only show a higher ROA than the rest of the system but also, once they are separated from other foreign banks, show a significantly smaller spreads than the rest of the system[7].

[7] Green-field banks have been found to be associated with lower spreads also in a selection of Latin American countries by Martinez-Peria and Mody (2003). This evidence may also be related to a composition effect by which green-field institutions carry a higher portion of business with corporate business where both spread and unit cost are lower than in the retail business

Our final test concerns the effects of foreign ownership on the level of bank lending. Are foreign banks able to offer competitive conditions and attract an increasing volume of lending? Our evidence supports the notion that foreign owned banks have increased their lending but the coefficients, although consistently positive, are significant in only one case and only at the 10 per cent level. More importantly this is the only case in our analysis where greenfield banks do not show a clearly different pattern from other foreign owned institutions. In light of the ongoing debate about the role plaid by foreign banks in lending to the productive sector, this evidence may be too weak to support the notion that foreign banks though a more effective screening and monitoring have succeeded in widening the access to the credit market. At the same time, it clearly supports the notion that foreign banks do not retrench from lending activities, at least in countries such as Hungary where foreign presence is pervasive and includes banks of all sizes.

7. Conclusions.

Our conclusions offer a considerably detailed view of the way foreign ownership affected banks' performance in Hungary, possibly sheding light on more general patterns. A larger focus on details, though, may come at the cost of generality and therefore our conclusions should be very cautiously extended to different countries. Also, the number of observations available in the Hungarian case provide an upper bound to the efficiency and robustness of our results. Still, a country case analysis appears justified, in the case of Hungary, by the early start of the liberalization process that makes it possible to detect a sufficiently extended sample period in which bank decisions should not have been affected by other concurrent events such as major bank and financial reforms. Independently from statistical robustness, caution in extrapolating our results is warranted for an other reason. As often happens to be the case for "early starters" Hungary may have effectively exploited a "window of opportunity" that may not necessarily be replicated for countries and banks following the Hungarian experience at a different point in time.

With all these *caveats* in mind, our results provide a consistent and detailed account of important features associated to foreign bank ownership. In general the

evidence presented in this paper seems to support the notion that foreign banks independently from the nature of the original investment (greenfield investment or acquisition of control), of management styles and from the duration of ownership are pursuing a lending policy not dissimilar from that of domestic banks, after controlling for country level and bank level determinants of bank lending decisions. At the same time they are clearly able to achieve a consistently higher profitability. This evidence support the notion that foreign banks success is related to a product innovation, strictly tied to their ability to supply a broader array of financial services than their domestic competitors, and to a better screening and monitoring procedure of their loan applicants.

More importantly, the ability to achieve higher profitability levels is strictly related to the to the duration of their presence in the country and to the nature of the initial investment, with green-field banks clearly outpacing other foreign banks. In addition it emerges very clearly that increased profitability does not come from higher intermediation margins, which are in fact on average slightly decreasing overtime and whose negative impact on profits is probably only partly offset by increased lending.

Finally, while management style may not be clearly related to overall bank profitability levels, it is clearly related to the success of different strategies for achieving cost efficiency. On average for a given policy of rationalization of the work force domestic managers are considerably more effective in reducing operating costs than their foreign colleagues.

The bearing of our analysis on the political economy of foreign bank entry appear to be the following: the dynamic of foreign banks presence in a country is such that it is immediately associated to a reduction of employment and to higher profits than local banks. The two developments though are not directly associated, as foreign banks increase immediately the level of operating expenses (presumably to finance their restructuring efforts), offsetting the likely gains associated with a reduction of the labor force. More widely perceived benefits, such as a lower cost of credit, require few years to become apparent. While no contraction of credit is supported from our data we do not have evidence either of an aggressive lending policy that may reach larger layers of the population. Concluding, the most evident source of profits for foreign banks derives from

their ability to access a richer menu of financial services and possibly by their more higher quality loan portfolio. This is a benefit that may not be immediately apparent to the larger public but that supports bank profits immediately from the first year of their establishment. For countries, such as Hungary, where foreign banks are involved not only in niche markets but in large commercial banks, the benefits are likely to be felt by a large, but not necessarily new, public of customers.

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Table 1. Bank Loan Portfolios composition: 1993-1995

	1993	1994	1995
No problem	70.7%	72.8%	83.4%
Special attention	6.8%	13.1%	7.3%
Substandard	2.9%	1.9%	1.7%
Doubtful	6.1%	3.2%	2.4%
Bad	13.5%	9.0%	5.2%
Total outstandings	100.0%	100.0%	100.0%
Problem loans as % of total outstandings	*29.3*	*27.2*	*16.6*
Problem loans as % of GDP	*15.4*	*15.1*	*7.3*

Source: National Bank of Hungary

Table 2. Changes in Ownership Structure of the Hungarian Banking Sector
(% of registered capital,)

Type of owner	1993	1994	1995	1996	1997	1998	1999	2000
I. Hungarian owners	86.7	83.5	63.9	50.5	37.2	36.4	32.4	30.8
1. State and social securities	67.7	65.8	41.8	35.6	20.3	21.1	17.1	19.3
2. Other domestic institutions	17.9	15.1	17.8	11.6	14.4	12.5	12.7	9.5
3. Private persons	1.1	2.5	4.2	3.2	2.5	2.8	2.6	2.0
II. Foreign owners	12.4	16.0	35.7	45.8	61.1	60.9	65.0	66.6
1. Credit institutions	9.9	13.9	26.8	38.9	52.8	46.5	49.9	50.8
2. Other foreign institutions	2.6	2.2	8.8	10.1	8.6	14.4	15.1	15.8
III. Preferential and own shares	0.9	0.5	0.4	3,7	1,6	2.7	2.6	2.6
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: National Bank of Hungary

Table 3. Number of Banks by Types and Owners:* Selected Years 1987-2000.

	1987	1990	1994	1997	2000
Commercial banks	15	28	36	33	30
From which with foreign ownership	*3*	*14*	*23*	*28*	*27*
*- majority stake of foreigners***	*2*	*12*	*19*	*25*	*26*
- minority stake of foreigners	*1*	*2*	*4*	*3*	*1*
Specialized financial institutions***	6	7	6	14	12
Credit institutions total	**21**	**35**	**44**	**47**	**42**
From which with foreign ownership	*3*	*14*	*24*	*34*	*34*
- majority stake of foreigners	*2*	*12*	*20*	*30*	*32*
- minority stake of foreigners	*1*	*2*	*4*	*4*	*2*

* Without savings co-operatives and credit co-operatives
** More than or equal to 50%
*** Specialized credit institutions, development banks, mortgage banks and building societies
Source: own calculation on the basis of reports of banks

Table 4. Share of Foreign owned Banks in the Total Assets of the Hungarian Banking System*

	1995	1996	1997	1998	1999	2000
1. Banks with majority foreign ownership	41.8	46.2	53.0	64.0	66.4	68.1
2. Banks with minority foreign ownership	37.5	36.8	40.3	25.0	24.2	22.9
Banks with foreign ownership (1+2)	**79.3**	**83.0**	**93.3**	**89.0**	**90.6**	**91.0**
Total	100.0	100.0	100.0	100.0	100.0	100.0

* Without savings co-operatives, credit co-operatives and building societies
Source: own calculations on the basis of banks' reports

Table 5. Number of Foreign Entries: Purchases and Green-Field Investments

	1979-1989	1990-1995	1996-2000	Total
1. Foreign entry by way of purchase	1	6	4	11
of which: with majority stake of foreigners	*0*	*3*	*3*	*6*
2. Foreign entry by way of green-field investment	4	13	8	25
of which: with majority stake	*2*	*9*	*7*	*18*
All entries (1+2)	**5**	**19**	**12**	**36**
Coming out of the market			2	2

* Without savings co-operatives, credit co-operatives and building societies
Source: own calculations on the basis of banks' reports.

Table 6. **Market Share of Commercial Banks.**

Bank Name	Foreign Ownership	Type and Year of Acquisition*	% of the Total Assets		Variation 1993-2000
			2000	1993	%
National Savings Bank (OTP)	Minority	P, 1995	22.9	31.6	-8.7
Hungarian Foreign Trade Bank (MKB)	Majority	P, 1994	9.4	9.1	0.3
CIB Bank	Majority	G, 1979	8.0	4.2	3.8
Commercial and Creditbank (K&H)	Majority	P, 1997	7.3	8.8	-1.5
ABN Amro Bank (in 1993: MHB)	Majority	P, 1996	5.9	13.6	-7.7
Raiffeisen Bank	Majority	G, 1986	4.1	1.4	2.7
Budapest Bank	Majority	P, 1995	4.0	6.0	-2.0
Postabank and Savingsbank	Minority	P, 1990	3.9	6.4	-2.5
General Banking and Trust Co. (ÁÉB)	Majority	P, 1990	3.9	1.0	2.9
Bank Austria Creditanstalt Hungary	Majority	G, 1990	3.8	1.0	2.8
Citibank	Majority	G, 1986	3.7	1.4	2.3
Erste Bank Hungary (in 1993: Mezőbank)	Majority	P, 1997	2.4	1.3	1.1
Hypo-Bank Hungaria	Majority	G, 1993	2.2	-	2.2
Inter- Európa Bank	Majority	P, 1989	1.8	1.5	0.3
ING Bank Hungary	Majority	G, 1991	1.7	0.8	0.9
Bank of Hungarian Savings Cooperatives	Majority	P, 1997	1.4	1.4	0.0
Commerzbank Budapest	Majority	G, 1993	1.7	0.4	1.3
BNP-Dresdner Bank	Majority	G, 1991	1.1	0.6	0.5
Total banks more than 1% market share			*89.2*	*90.5*	*-1.3*
Of which:					
Banks with majority foreign ownership**			62.4	52.5	9.9
Banks with minority foreign ownership**			26.8	38.0	-11.2
Banks established as greenfield investment			26.3	9.8	16.5
Privatized banks			62.9	80.7	-17.8

* P: Acquisition, G: Green-field investment

**In the most years between 1993 and 2000

Source: Own calculation on the basis of reports of banks

Table 7. The Performance of Selected Groups of Majority Foreign-Owned Banks (1996-2000 Average Values)

Groups of Banks (number of banks)	Interest Margin	ROA	ROE	Net Interest Income/ Assets	Gross Income/ Assets	Operating Cost/ Assets	Operating Cost/ Gross Income
Total foreign banks (22)	**5.24**	**1.09**	**12.44**	**3.75**	**6.44**	**3.45**	**53.51**
Greenfield banks (12)	**3.87**	**1.65**	**18.32**	**3.41**	**5.30**	**2.86**	**47.61**
Of which:							
Greenfield large good (4)	4.60	2.46	25.08	3.98	6.41	2.66	41.58
Greenfield niche (3)	5.00	1.64	15.47	4.12	6.40	3.23	50.40
Greenfield weak (5)	3.54	0.49	5.03	3.16	5.00	3.32	66.31
Privatized banks (10)	**6.01**	**0.55**	**6.86**	**3.73**	**6.71**	**3.83**	**57.11**
Of which:							
Strategic good (2)	5.12	1.85	20.13	3.25	4.99	1.66	33.35
Strategic weak (8)	6.43	-0.07	-0.95	3.96	7.54	4.88	64.70
Reference:							
Domestically owned banks (4)	*8.52*	*-0.31*	*-5.35*	*4.45*	*7.11*	*3.80*	*53.37*
Of which:							
National Savings Bank /OTP/	10.38	1.49	31.24	4.86	7.09	3.49	49.27

Table 8. Regression Variables: Descriptive Statistics

Variable	Mean	Standard Deviation	Minimum	Maximum
Equity/total assets	.10	.06	-.01	0.58
Net interest income/total assets	.05	.03	.01	.07
Operating cost/total assets	.04	.02	.01	.05
Return on assets	.01	.04	-.36*	.08
Staff/total assets	.01	.004	.001	.03
Spreads	.05	.03	-.07	.23
Loan growth	.25	.29	-.54	.95
Foreign ownership dummy (FORCON1)	.775	.42	0	1

*Postabank in 1998 (eliminated as an outlier).

Table 9. Operating Costs/Total Assets: GLS with bank fixed effects

Log GDP per capita (x 000)	.000548	.000508	.000472	.00058	.00068	.00056
Inflation in GDP deflator	**-.002	**-.001	**-.001	**-.001	**-.001	**-.001
Log Total Assets	***-.02	***-.02	***-.02	***-.02	***-.02	***-.02
Equity/TA	.01	.01	.01	.01	.01	.01
Net Int. Inc. /TA	**.14	**.15	**.14	**.14	***.2	**.14
FORCON1	.003					
FORCON2		.005				
FORCON3			-.004			
FORCON4				-.004		
Log years since foreign control					-.001	-.001
Foreign CEO					**.01	
Domestic CEO					.01	
Foreign Board of Directors						***.02
Constant	***.3	***.3	***.3	***.3	***.3	***.3
F-test	***8.79	***9.17	***8.99	***8.95	***7.07	***8.77
No. of observations	153	153	153	153	151	151
No. of groups	26	26	26	26	26	26
Hausman Chi-squared Test (Null: Random effects is appropriate)	***Rejected					

The symbols ***, **, * indicate, respectively, a significance level smaller than 1 per cent, between 1 and 5 per cent, and between 5 and 10 per cent.

Table 10. Staff/Total Assets: GLS with bank fixed effects

	Coefficient					
Log GDP per capita (x 000)	.0009957	.000143	.000133	.000163	.000098	.000181
Inflation in GDP deflator	.0001	.0001	.0001	.0002	.0001	.0001
Log Total Assets	***-.003	***-.003	***-.003	***-.003	***-.003	***.003
Net Int. Inc. /TA	*.02	*.02	**.03	**.03	.01	**.02
Equity/TA	-.002	-.003	*-.01	-.001	-.002	-.005
FORCON1	***-.003					
FORCON2		***-.003				
FORCON3			***-.002			
FORCON4				-.001		
Log years since foreign control					-.0003	*.001
Foreign CEO					***-.004	
Domestic CEO					***-.004	
Foreign Board of Directors						***.003
Constant	***.03	***.03	***.04	**.02	**.03	**.03
F-test	***32.95	***30.67	***28.71	***25.44	***25.33	***23.53
No. of observations	153	153	153	153	151	151
No. of groups	26	26	26	26	26	26
Hausman Chi-squared Test (Null: Random effects is appropriate)	***Rejected					

The symbols ***, **, * indicate, respectively, a significance level smaller than 1 per cent, between 1 and 5 per cent, and between 5 and 10 per cent.

Table 11. Return on Assets: GLS (Random Effects)

	Coefficient					
Log GDP per capita	.00002	.00001	.00002	.00001	.00001	.00001
Inflation in GDP deflator	**.002	**.002	***.002	**.002	**.002	**.002
Log Total Assets	***.007	***.007	***.009	***.008	***.007	***.007
Equity/TA	.02	.02	.03	**.04	.03	.03
Net Int. Inc. /TA	***.27	***.27	***.25	**.21	**.23	***.24
FORCON1	***.01					
FORCON2		***.01				
FORCON3			***.02			
FORCON4				***.02		
Log years since foreign control					**.006	***.008
Foreign CEO					-.002	
Domestic CEO					.002	
Foreign Board of Directors						-.01
Constant	**-.2	**-.2	**-.2	**-.2	**-.2	**-.2
Wald-test (Chi-squ.)	***32.16	***32.55	***44.12	***41.99	***36.03	***38.29
No. of observations	155	155	155	155	152	152
No. of groups	26	26	26	26	26	26
Hausman Chi-squared Test (Null: Random effects is appropriate)	***Not Rejected					

The symbols ***, **, * indicate, respectively, a significance level smaller than 1 per cent, between 1 and 5 per cent, and between 5 and 10 per cent.

Table 12. Spreads: GLS (Random Effects)

	Coefficient					
Log GDP per capita	.00001	.00001	.00001	.00002	5.06e-06	7.98e-06
Inflation in GDP deflator	.002	.002	.002	.002	.001	.001
Log Total Assets	.003	.002	.002	.001	.004	.002
Equity/TA	.02	.02	.02	.01	.01	.02
Loan growth (first difference of logs)	**-.01	**-.01	**-.01	**-.01	***-.02	**-.01
ROA	-.05	.04	.01	.02	-.01	-.06
FORCON1	-.01					
FORCON2		-.02				
FORCON3			-.02			
FORCON4				**-.04		
Log years since foreign control					-.01	-.01
Foreign CEO					.02	
Domestic CEO					.002	
Foreign Board of Directors						-.01
Constant	-.03	-.04	-.04	-.05	-.01	-.01
Wald-test (chi-squ.)	9.81	10.62	10.75	*12.58	13.89	10.66
No. of observations	146	146	146	146	144	144
No. of groups	26	26	26	26	26	26
Hausman Chi-squared Test (Null: Random effects is appropriate)	***Not Rejected					

The symbols ***, **, * indicate, respectively, a significance level smaller than 1 per cent, between 1 and 5 per cent, and between 5 and 10 per cent.

Table 13. Consumer Loans: GLS (Random Effects)

	Coefficient					
Log GDP per capita	-.00005	-5.5e-06	-.00005	-.00011	.00002	-.00005
Inflation in GDP deflator	-.002	.002	-.00004	-.004	.002	-.004
Log Total Assets	-.02	-.01	-.01	-.01	-.02	-.02
Equity/TA	**1.07	**.93	**1.00	**1.09	**.92	**1.06
Net interest income/Total Assets	*4.15	**4.63	*4.23	*3.86	**5.93	**4.75
Operating Cost/TA	***-6.57	***-6.24	***-6.17	***-6.24	***-8.01	***-7.41
Spreads	-.44	-.34	-.29	-.26	-.59	-.32
Forcon1	.1					
Forcon2		*.1				
Forcon3			.1			
Forcon4				.1		
Log years since foreign control					.01	-.04
Foreign CEO					.10	
Domestic CEO					-.07	
Foreign Board of Directors						
Constant	-.67	.31	.58	.97	.28	.79
Wald-test (chi-squ.)	***32.56	***34.32	***34.13	***33.13	***38.44	***34.87
No. of observations	124	124	124	124	122	122
No. of groups	26	26	26	26	26	26
Hausman Chi-squared Test (Null: Random effects is appropriate)	***Not Rejected					

The symbols ***, **, * indicate, respectively, a significance level smaller than 1 per cent, between 1 and 5 per cent, and between 5 and 10 per cent.

Table 14. Type of investment: OLS

	Op. Costs/ Total Assets	Staff/ Total Assets	Return on Assets	Spreads	Consumer loans
Log GDP per capita (x1000)	.0024	.0015	.0262	.0177	.0921
Inflation in GDP deflator	-.0003	**.0002	*.0026	.0011	.0086
Log Total Assets	**-.0026	*-.0004	.0033	.0014	-.0144
Net interest income/Total Assets	.0826	.0051	***.6768		*3.775
Return on Assets				**377	
Operating Costs/Total Assets					***-8.973
Equity/Total Assets	***-.0927	**.0077	*.0667	.7740	***1.686
Foreign M&A	-.0058	***-.0037	***.0288	-0072	.1154
Greenfield investments	***-.0143	***-.0061	***.0385	***-.0328	-.0360
Constant	.0056	.0024	-.1190	-.0434	-.1658
F-test	***13.46	***21.53	***636	***2.81	***4.71
Adjusted R-squared	36.93%	48.98%	19.79	7.78	19.71%
No. of observations	150	153	153	151	122

The symbols ***, **, * indicate, respectively, a significance level smaller than 1 per cent, between 1 and 5 per cent, and between 5 and 10 per cent.

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